In re Patent Application of:
VIGIL ET AL.
Serial No. **09/840,481**
Filing Date: **April 23, 2001**
_____/

In the Claims:

Claims 1-24 (Cancelled).

25. (Currently Amended) A method for mitigating multipath in a digital television signal (DTV) that is ATSC DTV compliant, the method comprising:

estimating modulation characteristics of DTV data to be transmitted;

generating a training sequence that is ATSC DTV compliant, the training sequence being based upon a priori knowledge of the DTV data including the generated modulation characteristics;

multiplexing the training sequence with the DTV data to generate a multiplexed DTV data stream with the training sequence embedded therein;

modulating the multiplexed DTV data stream for transmission;

receiving a transmitted DTV signal;

detecting correlation peaks in the received DTV signal based upon the multiplexed training sequence embedded therein; and

using the detected correlation peaks to mitigate multipath in the received DTV signal.

Claims 26-30 (Cancelled).

31. (Previously Presented) A method for mitigating multipath in a digital television signal (DTV) that is ATSC DTV compliant, the method comprising:

2

In re Patent Application of:
VIGIL ET AL.
Serial No. **09/840,481**
Filing Date: **April 23, 2001**
_____/

estimating modulation characteristics of DTV data to be transmitted;

generating a training sequence that is ATSC DTV compliant and is based upon the estimated modulation characteristics of the DTV data;

multiplexing the training sequence with the DTV data to generate a multiplexed DTV data stream with the training sequence embedded therein; and

modulating the multiplexed DTV data stream for transmission.

32. (Previously Presented) A method according to Claim 31 further comprising:

receiving a transmitted DTV signal;

detecting correlation peaks in the received DTV signal based upon the multiplexed training sequence embedded therein; and

using the detected correlation peaks to mitigate multipath in the received DTV signal.

Claims 33-34 (Cancelled).

35. (Currently Amended) A digital television (DTV) system comprising:

a transmitting system comprising

an estimator for estimating modulation characteristics of DTV data,

a circuit for generating a training sequence that is ATSC DTV compliant and is based upon the

3

In re Patent Application of:
VIGIL ET AL.
Serial No. 09/840,481
Filing Date: **April 23, 2001**
_____/

estimated modulation characteristics of the DTV
data,

    a multiplexer for multiplexing the training
sequence with DTV data that is ATSC DTV compliant to
generate a multiplexed DTV data stream with the
training sequence embedded therein,

    a modulator connected to said multiplexer for
modulating the multiplexed DTV data stream, and

    a transmitter connected to said modulator for
transmitting a DTV signal based upon the multiplexed
DTV data stream; and

    a receiving system for receiving the transmitted DTV
signal and comprising a correlator for detecting correlation
peaks in the received DTV signal based upon the multiplexed
training sequence embedded therein, and using the detected
correlation peaks to mitigate multipath in the received DTV
signal.

    Claims 36-40 (Cancelled).

    41. (Previously Presented) A DTV system according to
Claim 35 wherein said receiving system comprises a digital
television.

    42. (Currently Amended) A digital television
(DTV) comprising:

    an input for receiving a transmitted DTV signal that
is ATSC DTV compliant and comprising a multiplexed DTV data
stream with a training sequence embedded therein, the training
sequence being based upon a priori knowledge of the DTV data,

4

In re Patent Application of:
VIGIL ET AL.
Serial No. **09/840,481**
Filing Date: **April 23, 2001**
_____/

<u>the a priori knowledge including modulation characteristics of</u> <u>the DTV data;</u> and

     a correlator for detecting correlation peaks in the received DTV signal based upon the multiplexed training sequence embedded therein, and using the detected correlation peaks to mitigate multipath in the received DTV signal.

     43. (Previously Presented) A DTV according to Claim 42 further comprising a demodulator connected to said correlator for demodulating the received DTV signal.

     Claims 44-47 (Cancelled).

5